Version With Currently Pending Claims

1. (Amended) An improved applanation lens for use in an interface between a patient's eye and a surgical laser system that does not discolor or lose light transmittance when subjected to gamma radiation, said improved applanation lens comprising:

a lens having an applanation surface configured to contact the eye said lens being formed of high purity silicon dioxide (SiO_2).

2. The improved applanation lens of claim 1, wherein said applanation lens has a transmittance of greater than 90% for wavelengths of light from 275nm - 2500nm.

3. The improved applanation lens of claim 2, wherein said applanation lens has a transmittance of greater than 90% for a wavelength of about 1053nm.

4. The improved applanation lens of claim 1, wherein said applanation lens has an index of refraction of approximately 1.46.

5. The improved applanation lens of claim 1, wherein said applanation lens is formed of an SiO_2 with a purity great enough to resist discoloration upon prolonged irradiation by high energy radiation such as UV, x-rays, gamma rays or neutrons.

6. The improved applanation lens of claim 5, wherein said high purity SiO_2 comprises a fused silica.

7. (Amended) An interface, adapted to couple a patient's eye to a surgical laser, the interface comprising:

a. an attachment apparatus adapted to overlay the anterior surface of an eye and for stable engagement to the eye;

b. an applanation lens adapted to be mounted on the attachment apparatus, said applanation lens having an applanation surface configured to contact the eye said surface being bounded by a plane and coupled to a delivery tip of the surgical laser such that the delivery tip is referenced to the plane; and

c. said applanation lens being formed of high purity SiO_2.

8. The interface of claim 7, wherein said applanation lens has a transmittance of greater than 90% for wavelengths of light from 275nm - 2500nm.

9. The interface of claim 8, wherein said applanation lens has a transmittance of greater than 90% for a wavelength of about 1053nm.

10. The interface of claim 7, wherein said applanation lens has an index of refraction of approximately 1.46.

11. The interface of claim 7, wherein said applanation lens is formed of an SiO_2 with a purity great enough to resist discoloration upon prolonged irradiation by high energy radiation such as UV, x-rays, gamma rays or neutrons.

12. The interface of claim 7, wherein said high purity SiO_2 comprises a fused silica.

13. (Amended) A method for applanating an anterior surface of a patient's eye and coupling the eye to a surgical laser, the method comprising the steps of:

a. providing an interface, the interface including a central orifice, and having top and bottom surfaces;

b. removably coupling a suction ring to the bottom surface of the interface; positioning the interface over an operative area of an eye, such that the suction ring comes into proximate contact with the surface of the eye;

c. applying a suction to the suction ring to thereby stabilize the position of the interface relative to the operative area of the eye;

d. positioning an applanation lens in proximate contact with the operative area of the eye, said applanation lens having an applanation surface configured to contact the eye said applanation lens being formed of high purity SiO_2; and

e. coupling the applanation lens to the interface to thereby stabilize the position of the lens relative to the operative area of the eye.

14. The method of claim 13, wherein said applanation lens has a transmittance of greater than 90% for wavelengths of light from 275nm - 2500nm.

15. The method of claim 14, wherein said applanation lens has a transmittance of greater than 90% for a wavelength of about 1053nm.

16. The method of claim 13, wherein said applanation lens has an index of refraction of approximately 1.46.

17. The method of claim 13, wherein said applanation lens is formed of an SiO_2 with a purity great enough to resist discoloration upon prolonged irradiation by high energy radiation such as UV, x-rays, gamma rays or neutrons.

18. The method of claim 13, wherein said high purity SiO_2 comprises a fused silica.